THE ECONOMIC UNDERSTANDING OF FIRST SEMESTER FRESHMEN, MOREHEAD STATE UNIVERSITY, FALL, 1976

A Thesis

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Master of Business Education

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by

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Accepted by the faculty of the School of Business and Economics, Morehead State University, in partial fulfillment of the requirements for the Master of Business Education degree.

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THE ECONOMIC UNDERSTANDING OF FIRST SEMESTER FRESHMEN,

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The purpose of this study was to: (1) measure the level of economic understanding of Morehead State University freshmen relative to national norms; and (2) discover the causal factors which would explain the variations in economic understanding among participants.

A total of 113 students, all of whom were first semester freshmen, participated in the study. These students were enrolled in six randomly selected English 101 classes during the Fall semester, 1976.

The testing instrument used to measure the participant's level of economic comprehension was the Science Research Associates Test of Economic Understanding, Form B. In addition, each participant completed a personal data sheet designed to obtain information to be used to explain differences in participants' scores. Supplementary personal data were supplied by the University Testing Center and the Registrar's Office.

Pertinent findings of this study were:

1. Fewer than 20 percent of the participants had taken an economics course in high school.

2. Male participants achieved higher scores on the Test than did females.

3. Out-of-state students earned higher scores than did in-state residents.

4. On the basis of national norms established for twelfth grade students who had never taken a course in economics, scores made by Morehead State University freshmen ranged from the first (lowest) to the 99th percentile. Only out-of-state male students earned scores equal to or better than the national norms.

5. Participants who graduated from high schools of intermediate size scored higher on the Test than did those who had graduated from schools with very small or very large enrollments.

6. The number of mathematics courses taken in high school appeared to be the primary variable explaining differences in economic comprehension of participants. Those who had taken mathematics courses had higher mean raw scores on the Test of Economic Understanding.

7. The number of business education courses taken in high school did not influence the participants' economic understanding.

8. In all ACT categories, higher scores were positively correlated with higher mean scores on the Test.

9. The participants' mean scores on the Test increased as the social position of their parents increased.

10. There was no evidence from this study that exposure to current economic information through such media as radio, television, or weekly news magazines influenced the participants' scores on the Test of Economic Understanding.

Based on the findings of this study, it can be concluded that:

1. The level of economic understanding of entering freshmen at Morehead State University varies widely but is well below the national norms for twelfth grade students who have never taken a course in economics.

2. Entering freshmen from out-of-state have a higher level of economic understanding than do those from Kentucky.

3. Only a small proportion of freshmen entering Morehead State University have been exposed to an economics course in high school.

4. The economics courses as currently taught in secondary schools from which participants graduated were ineffective in instilling economic understanding in students, according to test results.

The following recommendations are made in an effort to correct deficiencies that exist in economic education in Kentucky:

1. That a Director of Economic Education and adequate supportive staff be employed by the State Department of Education to establish, coordinate, and direct an economic education program in Kentucky's secondary schools;

2. That a minimum one-semester course in principles of economics be established in every accredited high school in the state at the eleventh or twelfth grade level and that all students be required to take this course;

3. That teachers certified to teach economics in Kentucky's high schools should have no less than six semester hours of principles of economics at the college level;

4. That additional research be conducted periodically to determine the effectiveness of an economic education program established by the state.

TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

Table Page

CHAPTER I

THE PROBLEM

Introduction

Few people would deny that economic literacy, which was defined by Alexander as "the possession of basic economic equipment needed by the citizen-consumer for intelligent and responsible participation in the everyday activities of the modern economy,"[1] is of major importance in a democratic society. The monetary and fiscal policies established by government agencies do much to determine the levels of inflation, employment, and economic growth.

The central role of economics to national welfare is demonstrated by the fact that President Carter's initial messages to the American people dealt with the economic complexities facing the nation, i.e., business stimulation, the creation of jobs, tax strategy, the budget, inflation, defense expenditures, and monetary policies.

It is obvious that economic policy decisions should not be the sole province of politicians, economists, or any intellectual elite. However, the American people will not be able to participate in such matters without an understanding of the principles and laws of the science of economics.

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[1]Linda Ann Alexander, "An Analysis of Economic Understanding of High School Seniors in Selected Schools in Alabama," (unpublished Doctoral dissertation, University of Alabama, 1969), p. 7.

Statement of the Problem

The problem in this study was to: (1) measure the level of economic understanding of entering freshmen at Morehead State University relative to national norms for reference groups comparable in age and classroom experience; and (2) discover the causal factors which would explain the variations in economic understanding of participants.

Purpose of the Study

The purpose of this study was to determine how the level of economic understanding as demonstrated by scores achieved on the Science Research Associates Test of Economic Understanding, Form B, is related to:

1. the age and sex of the participants
2. the home residence of the participants, i.e., whether in-state (Kentucky) or out-of-state residents
3. the size of the participant's high school graduating class
4. the number of high school economics, business education, and mathematics courses taken by participants
5. the ACT scores of participants
6. the socio-economic background of participants
7. the participants' exposure to current economic information through such media as daily newscasts and weekly news magazines.

Hypothesis

The general hypothesis underlying this study was that the level of economic understanding among freshmen students enrolled at Morehead State University should be the same as the national norm for twelfth

grade students. Stated in null form, this hypothesis implies that there is no significant difference in the scores made on the Test of Economic Understanding by Morehead State University freshmen and the national norms established by the Science Research Associates.

To explain the variations in economic understanding among the participants, the null hypothesis was assumed relative to each of the following variables:

1. the size of the high school from which the participant graduated
2. the sex of the participant
3. the residence of the participant whether in-state or out-of-state
4. the number of economics, mathematics, and business education courses taken in high school
5. the participants' ACT scores
6. the socio-economic background of the parents
7. the level to which the participants were exposed to current events by news magazines, radio, and television.

Need for the Study

For many years educators have recognized both the low level of economic literacy among American citizenry and the importance of improving it. Professor G. Derwood Baker, Chairman of the Joint Council on Economic Education, declared in 1951 that "economic illiteracy is one of

the great threats which, if left unchallenged, would surely destroy our economic system and the free society that has been erected around it."[2]

In 1961, the National Task Force on Economic Education stated that "economic understanding is essential if people are to meet their duties and responsibilities as citizens and as participants in a basically free enterprise economy."[3]

More recent comments suggest that the problem of economic illiteracy is just as widespread today as ever. Howard Flieger, in an editorial in the U.S. News and World Report of January 31, 1977, stated that "most Americans are economic illiterates. That is the unfortunate truth of the matter at a time when a rudimentary knowledge of economics has never been more vital."[4]

Mr. Flieger blames the education system for the abysmal state of economic literacy in America. Flieger states:

> . . . the so-called dismal science is, in fact, largely an untaught science. It probably is the most neglected subject in our entire education system. . . . On public questions involving economic issues, our schools and our universities in many ways fail to prepare the great majority of students to make wise decisions, and the adult public-at-large, having emerged from these same institutions, is in the same boat. Our citizens cannot, in most cases, make wise decisions on economics.[5]

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[2]"Economic Education Report," The Balance Sheet, Volume 33, March, 1952, p. 234.

[3]National Task Force on Economic Education, Committee for Economic Development (CED), Economic Education in the School, (New York: The Committee, September, 1961), p. 7.

[4]Howard Flieger, "The Economic Gap," U.S. News and World Report, January 31, 1977, Vol. LXXXII, No. 4, p. 76.

[5]Ibid., p. 76.

Delimitations of the Study

Some of the delimitations of this study are as follows:

1. The participants in this study were not selected by any procedure which would assure that the sample or any subsample based on age, sex, or residence of the student was truly representative of the entire population of entering freshmen at Morehead State University.

2. The results obtained in this study were based on tabular analysis of data and comparison of simple arithmetic measurements such as range or means of scores made by the groups or subsamples into which the participants were divided for the purpose of analysis. In no instance was statistical inference employed to determine whether results were significant at a particular degree of probability.

3. The national norms against which the Morehead State University freshmen were compared were established for twelfth grade students. Participants were near the mid-point of the first semester of their freshman (13th) year in college when the test was administered. Thus, the participants had slightly more classroom experience than the control group which comprised the national norm.

Definition of Terms

The following terms and definitions are applicable to this study:

1. ACT Scores--scale scores which participating students achieved on the test designed by the American College Testing Program to measure educational proficiencies of candidates for college entrance.

2. Home Address or Residence--the participant's home address prior to enrolling at Morehead State University. The home address was

used to designate the high school from which participants graduated and served as a basis for classifying students as from in-state or out-of-state.

3. In-state Student or In-state Participant--any participant in the study whose home state is Kentucky.

4. Mean Raw Score--the arithmetic mean of the raw scores of the entire sample or any subsample thereof.

5. National Norms--results achieved by 6,435 twelfth grade students in 24 states on the Test of Economic Understanding which provided the basis for the national norms. These norms made it possible to translate each participant's raw score to an equivalent national percentile rank.

6. Out-of-state Student or Out-of-state Participant--any participant in the study whose home is any state other than Kentucky.

7. Participant--any member of the 113 students who completed the Test of Economic Understanding, Form B.

8. Population--the entire group of 1,774 entering freshmen who started their college careers at Morehead State University in the Fall Term, 1976.

9. Raw Score--number of right answers which the participant successfully completed on the Test of Economic Understanding. Raw scores have a possible range of 0 to 50.

10. Sample--the 113 students selected randomly from the population to participate in this study.

11. Size of High Schools--Small: those with graduating classes of less than 100 students.

Intermediate: those with graduating classes of 100 to 300 students.

Large: those with graduating classes of more than 300 students.

12. Social Position Index--an index of the socio-economic position achieved by the participant's parents. A description of the Index and the Social Classes established is contained in Appendix C, page 70.

13. Subsample--any sub-group or part of the sample that was separated from the total sample for the purpose of analyses.

14. Test of Economic Understanding or Test--the instrument provided by Science Research Associates to measure the participant's economic understanding or comprehension. This instrument is officially designated as Test of Economic Understanding, Form B. A copy is shown in Appendix A, page 54.

CHAPTER II

REVIEW OF RELATED LITERATURE

Insofar as the author was able to determine, literature which specifically explores the level of economic understanding of college freshmen is not available. However, an abundance of literature relative to the economic understanding and economic literacy of students at the secondary level is available. Much of this literature deals with high school seniors and is intended to portray the economic literacy achieved in the public schools of the nation. Since the difference in classroom experience of high school seniors and college freshmen is small and the techniques employed by the researchers at the secondary level appear to be appropriate to the present problem, a number of these studies were reviewed. Results from seven studies which appeared to be relevant to the current study are cited below.

Alexander Study[6]

Alexander attempted to find the degree to which high school students in Alabama had developed an understanding of basic concepts of economic education. Information on the understanding of concepts was collected through the use of the Test of Economic Understanding, Form B, and a personal information data sheet. The information received on the

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[6]Linda Ann Alexander, "An Analysis of Economic Understanding of High School Seniors in Selected Schools in Alabama," (unpublished Doctoral dissertation, University of Alabama, 1969).

personal data sheet was then related to the economic understanding of the students.

The results of this study indicated that:

1. boys scored slightly higher than girls on the Test of Economic Understanding;
2. students in the urban and suburban schools scored higher on the Test of Economic Understanding than those from the rural school;
3. higher scores were made by students in the upper socio-economic groups;
4. topics most widely understood were related to consumer behavior;
5. topics least commonly understood were related to economic theory;
6. items of personal data that were not statistically significant as related to the Test of Economic Understanding score were:
    a. watching the news on television
    b. student employment
    c. frequency of magazine reading
    d. mother's employer
    e. father's employer
    f. family income
    g. living in a state other than Alabama
    h. father's age
    i. father's educational level
    j. mother's occupation

7. personal data which were statistically significant were:
    a. mother's educational level
    b. comprehension and verbal score on California Achievement Test
    c. father's occupation and socio-economic class

Sorensen Study[7]

Sorensen conducted a study to determine the economic understanding of Omaha, Nebraska, public high school seniors. This approach was similar to that used by Alexander. The Test of Economic Understanding, Form B, and a personal data form were given to 2,733 seniors in seven selected high schools.

Sorensen found:

1. a majority of the seniors scored below the median level of economic understanding considered essential for good citizenship;
2. seniors who had been exposed to an economics course scored significantly higher than those without an economics course;
3. the academically average and below-average senior demonstrated a greater need for increased economics instruction;
4. business majors, in general, scored lower than other groups of students;
5. the level of the father's education background seemed to be related to the economic understanding of the student;

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[7]Norman Leroy Sorensen, "Economic Understanding of Senior Students in the Omaha, Nebraska, Public High School," (unpublished Doctoral dissertation, The University of Nebraska Teachers College, 1967).

6. business majors appeared to be inferior in economic understanding when compared with social studies majors or mathematics and science majors;
7. work experience did not contribute significantly to higher scores;
8. college-bound seniors scored higher than students in other curriculums.

Sorensen concluded that economics should be an important aspect of all social studies courses, and a basic economics course should be offered to those students who do not plan post-high school education.

Paul Study[8]

The purpose of Paul's study was to analyze the relationships of certain variables to economic understanding in a sample of Georgia high school students. Paul administered the Test of Economic Understanding, Form B, and a personal data form to 720 students in grades 9-12 from six Georgia high schools in different localities. The students were classified by socio-economic level, sex, IQ, type of school, course of study, and grade level.

Paul found that:

1. the students at each succeeding grade level achieved higher scores;
2. the boys scored higher than girls;
3. the higher the social studies grade, the higher the scores;

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[8]Joel H. Paul, "An Analysis of Economic Understanding in Selected Georgia High Schools," (unpublished Doctoral dissertation, University of Georgia, 1964).

4. the more social studies a student had, the better he scored on the test;
5. the higher the socio-economic levels, the higher the score;
6. the students enrolled in a college preparatory course of study scored higher on the test than those enrolled in general or the vocational courses of study;
7. the students living in metropolitan areas scored higher than rural students;
8. the students who had taken economic education courses scored higher than those who had not;
9. higher scores were observed among the more intelligent groups.

Rutledge Study[9]

Rutledge used the Test of Economic Understanding to study 442 randomly selected seniors in seven randomly selected high schools in Atlanta, Georgia.

Rutledge found that:

1. the seniors enrolled in economics courses scored higher than those not enrolled in economics courses;
2. the higher the level of socio-economic standing, the higher the score on the test;
3. the students with parents in professional occupations scored higher than those from other occupations;

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[9]Walter E. Rutledge, "An Analysis of Economic Understanding of Selected High School Seniors in the Atlanta Public Schools," (unpublished Doctoral dissertation, Georgia State University, 1971).

4. the white seniors scored significantly higher than black seniors.

Rutledge recommended that an effort to improve economic understanding of high school students should be intensified. He believed that high school seniors should be required to take a course in economic theory and that special programs in economic education should begin early in the student's formal schooling in the predominantly black schools.

Smith Study[10]

Smith administered the Test of Economic Understanding and a personal data sheet to 1,369 seniors in the Mt. Prospect, Illinois, school district to study the relationship between economic understanding and certain personal and curricular factors of the graduating seniors.

Smith found that:

1. males scored significantly higher than females;
2. students with higher grade point averages scored significantly higher than students with low grade point averages;
3. students with higher intelligence scores scored higher than students with low scores;
4. socio-economic background of the student made a significant difference as those students with a higher socio-economic background scored higher than students with lesser socio-economic backgrounds.

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[10]Alfred J. Smith, "The Relationship Between Economic Understanding of Graduating Seniors and Certain Personal and Curricular Factors," (unpublished Doctoral dissertation, Indiana University, 1967).

Smith concluded that the seniors knew less than 50 percent of the economics held essential for effective economic citizenship according to their achievements on the Test of Economic Understanding.

Hunt Study[11]

Hunt conducted a study to determine whether selected economic concepts could be learned better by high school students through a formal designed course rather than through normal exposure to the concepts in everyday living.

Hunt used the Test of Economic Understanding as a pre-test and post-test to measure the degree of economic understanding possessed by a group of seniors at the beginning and end of a twelve-week period in a social studies course. A comparable group of senior students was selected for a control group and they did not study economics.

Hunt found that:

1. high school seniors who were exposed to the economic concepts in a formal classroom situation acquired significantly greater understanding of economics than did the control group who did not study the concepts;
2. students who ranked higher in their class assimilated more of an understanding of economics than did students who ranked low in their class;
3. students who scored high on an intelligence test also assimilated more of an understanding of economics than did students who scored low on an intelligence test;

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[11]Eugene Harold Hunt, "An Experimental Study to Determine the Effectiveness of Teaching Economics at the Secondary-School Level," (unpublished Doctoral dissertation, University of Maryland, 1968).

4. sex differences did not seem to be reflected in the learning of economics.

Wall Study[12]

Wall determined the level of economic understanding of 1,271 seniors in five selected Ohio public high schools. The Test of Economic Understanding, Form B, and a questionnaire were used to evaluate the students.

Wall found that:

1. seniors were below the level recommended for good citizenship by the National Task Force on Economic Education;
2. seniors who had taken an economics course scored higher than seniors without an economics course;
3. general business did not improve the score of seniors with a general business background;
4. students with a higher academic ability had a better economic understanding than those with a lower academic ability;
5. male students scored higher than females;
6. socio-economic background of the students was significantly related to levels of economic understanding.

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[12]Carlton Dewey Wall, "Contributing Factors to the Economic Understanding of High School Seniors," (unpublished Doctoral dissertation, Ohio State University, 1971).

Summary of Previous Research Findings

A summary of the findings is as follows:

1. In four of the seven studies cited, males scored higher than females on the Test of Economic Understanding.
2. In five of the seven studies, the participants who came from higher socio-economic backgrounds made higher scores.
3. Students with higher GPA, higher class standings, or higher intelligence quotients displayed greater economic understanding.
4. Five of the seven studies reported that students who had taken a course in economics in high school made higher scores on the Test of Economic Understanding.
5. Two studies reported that students from urban and metropolitan areas made significantly better scores on the Test of Economic Understanding than did those who came from rural areas.
6. Two researchers reported that students who planned to go to college made higher scores than those who did not plan to go to college.
7. One of the studies reported that students taking a business or vocational curriculum scored lower on the Test of Economic Understanding.
8. Two researchers found that taking business courses in high school did not improve the participant's economic understanding.

9. Research results concerning the relationship of the parents' occupation and education to the student's achievement on the Test of Economic Understanding were mixed.

   a. one study illustrated that the mother's educational level had no impact on the participant's economic knowledge;

   b. another study showed that the father's educational level was a significant determinant of the student's achievement;

   c. one researcher learned that the mother's occupation was not a significant determinant of the student's economic achievement;

   d. another study found that the father's occupation was significant;

   e. another researcher determined that children of professional parents demonstrated higher levels of economic understanding.

CHAPTER III

PROCEDURE

It was the purpose of this chapter to present the research design employed in this study. This chapter is divided into four parts: (1) selection of the students who participated in the study; (2) description of the research instruments; (3) administration of the instruments; and (4) analyses of data.

Selection of the Sample

The population from which the participating students were drawn consisted of the 1,774 first semester freshmen enrolled at Morehead State University in the Fall of 1976. The 113 students who participated in the study were those enrolled in six selected sections of English 101. Since all students must take this required course, the classes examined were selected randomly. It was anticipated that this sample should be a representative cross section of all freshmen students enrolled in the University.

However, the sample revealed a disproportionately large number of females and out-of-state students. Of 113 students who completed the Test of Economic Understanding, 75, or 66.4 percent, were females and 38, or 33.6 percent, were males. The University population of entering freshmen in the Fall of 1976 consisted of 51.5 percent females and 48.5 percent males. In regard to the students' home residence, 41 of 113

participating students, 36.3 percent, were from out-of-state, but only 26.8 percent of all first semester freshmen were from out-of-state.[13]

The distribution of the participating students' home addresses coincided with the geographic area from which Morehead State University students have historically been admitted. The greater proportion of the in-state students were from the eastern and northern Kentucky counties. Twenty-eight of 41 out-of-state participants, 68.3 percent, were from Ohio, predominately from the southern tier of Ohio counties contiguous with Kentucky.

The age distribution of the participating students was typical of a group of recent high school graduates. Participants ranged from 17 to 20, but 75.5 percent were 18 years of age.

Despite the fact that the sample was not representative of the entire population of entering freshmen in all respects, it is believed that the number of participants in each of the categories from which comparisons were made--males vs. females, and in-state vs. out-of-state residents--was large enough to provide valid estimates of the levels of economic understanding of each group.

Collection of Data

The Testing Instrument

The testing instrument used to measure the participant's level of economic comprehension was the Science Research Associates Test of Economic Understanding, Form B. This instrument consisted of fifty

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[13]Data concerning the sex distribution and residence of all entering freshmen was provided by the Registrar's Office, Morehead State University.

multiple choice questions. It had its origin in the need of secondary schools and business organizations to have a tool to measure comprehension of basic economic concepts. The test was constructed in 1963 by a committee of recognized authorities in the fields of economics, business, and education. This instrument was tested on 6,435 twelfth grade students in 62 schools from 24 states and is widely accepted as a valid and objective measure of economic comprehension.[14]

Although the test was constructed in 1963, the material remains current. It is designed to test the student's knowledge of the principles of economics which are essentially the same today as they were in 1963. On the basis of these facts, the results obtained by the use of this instrument were assumed to provide a valid measure of the participant's knowledge and understanding of economics.

In addition to results obtained from the primary testing instrument, each participant completed a personal data sheet which was designed to obtain information which could be used to explain differences in the participant's scores. Supplementary personal data were supplied by the University Testing Center and the Registrar's Office.

Copies of the testing instrument and personal data sheet used by each participant are shown in Appendix A, page 54, and Appendix B, page 67.

Administration of Test

The researcher administered the test in each of the six English 101 classes in order to assure that standardized instructions were given

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[14]Science Research Associates, Interpretive Manual and Discussion Guide: Test of Economic Understanding (Chicago: The Associates, 1964), pp. 32-36.

to all participating students. Only the 113 students in attendance on the testing day were included in this study.

Each student was given a test booklet, score sheet, and personal data form. All students finished the test and personal data form within a single class period.

Treatment of Data

The Test of Economic Understanding was graded and these results were tabulated and analyzed. In this analysis, students' scores were compared to the national norms that were developed by the Science Research Associates.

Information from personal data forms completed by the 113 students during the testing session was then used in an attempt to discover causal factors which would explain the differences in economic understanding among participants.

CHAPTER IV

FINDINGS

Student Scores, Test of Economic Understanding, Form B

A frequency distribution of the raw scores, unadjusted and adjusted percentage scores achieved by participating students on the Test of Economic Understanding, Form B, is shown in Table 1. The raw scores indicate the number of questions the student answered correctly. The possible range of this score is from 0 to 50. The scores of participating students ranged from a low of 11 to a high of 40. The mean raw score for all participants was 19.9.

The unadjusted percentage score was calculated for each participant by multiplying the student's raw score by two. The resulting unadjusted percentage scores ranged from 22 to 80. The mean raw score of 19.9 provided a 39.8 unadjusted percentage score for the population of 113. However, these unadjusted scores overstate the true level of economic knowledge because of the guessing element on multiple choice tests.

Since each of the 50 multiple choice questions on the Test of Economic Understanding had four choices, the chance of selecting the correct answer by pure chance was 25 percent. Accordingly, an adjusted percentage score was devised which reduced the element of guessing on the examination to zero. This also provided a more accurate measure of the participant's knowledge of the subject matter.

The formula for calculating the adjusted percentage score was:

Adjusted Percentage Score = Unadjusted Percentage Score -

(Number of Questions Missed x .67)

Table 1

Frequency Distribution of Raw Scores, Unadjusted Percentage Scores, and Adjusted Percentage Scores Achieved by Selected Freshmen, Morehead State University, Fall, 1976

Raw Score*	Frequency	Unadjusted Percentage Score**	Adjusted Percentage Score
40	1	80	73
34	2	68	57
32	2	64	52
31	2	62	49
30	4	60	47
29	1	58	44
28	4	56	41
27	1	54	38
26	2	42	36
25	3	50	33
24	2	48	31
23	4	46	28
22	6	44	25
21	5	42	23
20	7	40	20
19	13	38	17
18	7	36	15
17	11	34	12
16	8	32	9
15	7	30	7
14	6	28	4
13	7	26	1
12	6	24	0.0
11	2	22	0.0

*Maximum possible is 50.

**Maximum possible is 100 percent. (Raw score multiplied by two gives the unadjusted percentage score).

The adjusted percentage scores ranged from 0.0 to 73 with a mean of 19.33 percent. Eight students (7.1 percent) scored below 13 on the raw score indicating a complete lack of knowledge of the examination material. Only five students (4.4 percent) had an adjusted percentage score above 50 percent.

When the participants were classified by sex, the mean raw score achieved by males, whether from in-state or out-of-state, exceeded the mean raw score of females. The male participants from in-state earned a mean raw score of 19.6 compared to 18.6 for in-state females (Table 2, A). Male participants from out-of-state earned a mean raw score of 24.9 compared to 20.1 for out-of-state females (Table 2, B). The combined raw score for all males participating was 21.4, while all female participants had a score of 19.1 (Table 2, C).

The results of this study indicate that the residence of the students was a significant determinant of economic understanding. The mean raw score achieved by both males and females from out-of-state exceeded that of in-state students. The mean raw score for all in-state students was only 18.9 (Table 2, A) compared to a mean of 21.6 for all out-of-state students (Table 2, B).

When the impact of both sex and residence was explored, the out-of-state males had the highest mean score (24.9) while in-state females had the lowest mean score (18.6).

Participants' Scores Compared to National Percentile Norms

By use of national norms established by the Committee for Measurement of Economic Understanding, it was possible to compare the scores made by Morehead State University freshmen with those of reference

Table 2

Mean Raw Score and Range of Score on the Test of Economic Understanding, Morehead State University Freshmen, Fall, 1976

A. In-State Students

	Number of Students	Range Low	Range High	Mean Raw Score*
Males	25	13	31	19.6
Females	47	11	30	18.6
Both Sexes	72	11	31	18.9

B. Out-of-State Students

	Number of Students	Range Low	Range High	Mean Raw Score*
Males	13	12	40	24.9
Females	28	11	34	20.1
Both Sexes	41	11	40	21.6

C. All Students

	Number of Students	Range Low	Range High	Mean Raw Score*
Males	38	12	40	21.4
Females	75	11	34	19.1
Both Sexes	113	11	40	19.9

*Maximum possible raw score was 50.

groups comparable in age and classroom experience.[15] Fewer than 20 percent of the students in this study (22 of 113 participants) had taken an economics course in high school. Moreover, the results of this study indicated that having had an economics course in high school did not improve the raw scores made by participants on the Test of Economic Understanding. For this reason, the national norms to which the Morehead State University freshmen were compared were twelfth grade students who had not taken an economics course in high school.

On the basis of national norms, the scores made by Morehead State University freshmen ranged from the first to the 99th percentile (Table 3). The majority of the participants in this study, or 59.29 percent, earned percentile ranks ranging from 1 through 19.

In Table 4 A, B, and C, the national percentiles are grouped into quartiles and the performance of participating students as classified by sex and home residence is compared to the national norms. As a group, only out-of-state male students earned scores equal to or better than the national norms. Of this group, approximately 54 percent were in the two upper quartiles ($> 50 \leq 100$ percentiles) and 46 percent placed in the two lower quartiles ($> 0 \leq 50$ percentiles). In all other categories, a disproportionately large number of the participants earned lowest quartile scores ($> 0 \leq 25$ percentiles). In-state females did the poorest relative to national norms. Of this group, 74.5 percent were in the lowest quartile, approximately three times as many as the national

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[15]Science Research Associates, Interpretive Manual and Discussion Guide: Test of Economic Understanding (Chicago: The Associates, 1964), pp. 32-33.

norms indicate should be in this category. For all participants, 59.3 percent had the lowest quartile scores, approximately 2.4 times as many as were expected on the basis of national norms.

Table 3

Frequency of Raw Scores Made by Morehead State University Freshmen on the Test of Economic Understanding and National Percentiles Corresponding to Each Raw Score

Raw Score	Frequency	National Percentile
40	1	99
39	0	98
38	0	97
37	0	97
36	0	94
35	0	94
34	2	92
33	0	87
32	2	87
31	2	82
30	4	82
29	1	74
28	4	74
27	1	63
26	2	63
25	3	58
24	2	50
23	4	39
22	6	39
21	5	31
20	7	26
19	13	19
18	7	19
17	11	13
16	8	8
15	7	5
14	6	5
13	7	3
12	6	2
11	2	1

Table 4

Number and Percent of Morehead State University Freshmen Scoring in the Specified National Percentile Categories on the Test of Economic Understanding, Form B

A. In-State Students

Percentile Rank National Norm	Males		Females		Both Sexes	
	Number	Percent	Number	Percent	Number	Percent
>75 ≤100	2	8.0	1	2.1	3	4.2
>50 ≤ 75	2	8.0	4	8.5	6	8.3
>25 ≤ 50	5	20.0	7	14.9	12	16.7
> 0 ≤ 25	16	64.0	35	74.5	51	70.8

B. Out-of-State Students

Percentile Rank National Norm	Males		Females		Both Sexes	
	Number	Percent	Number	Percent	Number	Percent
>75 ≤100	3	23.1	5	17.8	8	19.5
>50 ≤ 75	4	30.8	1	3.6	5	12.2
>25 ≤ 50	3	23.1	9	32.1	12	29.3
> 0 ≤ 25	3	23.1	13	46.4	16	39.0

C. All Students

Percentile Rank National Norm	Males		Females		Both Sexes	
	Number	Percent	Number	Percent	Number	Percent
>75 ≤100	5	13.3	6	8.0	11	9.7
>50 ≤ 75	6	15.8	5	6.7	11	9.7
>25 ≤ 50	8	21.0	16	21.3	24	21.2
> 0 ≤ 25	19	50.0	48	64.0	67	59.3

Relation of Size of High School Graduating Class to Economic Understanding of Participants

Data on the size of the high school graduating class, the number of students in the high school from which the students graduated, population of the home town, and location (address) of the high school from which the students graduated were obtained from the participants.

The purpose for obtaining these data was to ascertain whether the high schools with larger enrollments or those located in larger population centers provided a better or more enriched high school economic education which would be reflected in higher scores on the Test of Economic Understanding.

After analyzing the data, it was determined that the location (address) of the high school provided little information as to whether the student was reared in a rural or urban area. Most students apparently attended consolidated school districts made up of both rural and urban people. Moreover, the population of the home town is not a good proxy for the size of school in either the larger cities or in the areas that are predominately rural. The data obtained suggested that the students had more precise information concerning the size of their graduating class than they had of the total enrollment of the school from which they graduated. For these reasons, it was decided that the size of the students' graduating classes provided the best indication of differences in the size of the schools from which they were graduated.

The results of this study indicate that the economic comprehension of students increased as the size of their graduating class increased up to about 300 and then declined for those graduating from schools with larger enrollments. As the data in Table 5 show, students

who came from the smaller high schools with less than 100 students in the graduating class did approximately as well on the Test of Economic Understanding as those who came from schools with more than 300 students in the graduating class. However, students who graduated from high schools of intermediate size (i.e., with graduating classes of 100 to 300) scored higher on the Test of Economic Understanding than did those graduating from schools with very small or very large enrollments.

Table 5

Relationship of the Size of High School Graduating Class to Mean Raw Score and Range of Raw Score on the Test of Economic Understanding

Size of Graduating Class	Number of Students	Range of Raw Score	Mean Raw Score
≤ 100	29	11-31	18.00
$>100 \leq 200$	44	12-40	20.79
$>200 \leq 300$	15	12-31	21.33
>300	23	11-32	18.69

Impact of Selected High School Courses on Economic Understanding of Participants

Item 14 of the Personal Data Sheet (see Appendix B, page 67) contains a list of 18 courses that are often taught in high schools and that might, it was believed, influence the students' level of economic understanding. These 18 courses were divided into three categories--i.e., general mathematics, business education, and general economics. Courses which comprised each of these categories are as follows:

General Mathematics	Business Education	General Economics
Algebra I	Applied Economics	Economics
Algebra II	Business Arithmetic	Fundamentals of Economics
Trigonometry I	Business Economics	Modern Economics
Trigonometry II	Business Law & Economics	Our Modern Economy
	Consumer Economics	Social Economics
	Economics of Distribution	Problems in Economics
	General & Consumer Economics	
	General Business	

The results indicated that the number of general mathematics courses taken in high school had a significant impact on the participants' economic understanding. Those who had not taken a general mathematics course in high school made a mean raw score of 14.7 on the Test, while those who had taken four mathematics courses in high school made a mean raw score of 26.0. The consistency of the relationship of the number of mathematics courses taken and the achievement on the Test of Economic Understanding is shown in Table 6 A.

The results of this study indicate that the number of business education or economics courses taken in high school did not influence the student's economic understanding. Table 6 B shows that the 68 students who had not had a course in business education in high school made a mean raw score of 20.8 on the Test of Economic Understanding, while those groups who had taken one, two, or three business education courses had mean raw scores of 16.6, 19.9, and 18.3 respectively.

Of the 113 students who took the Test of Economic Understanding, 91 (80.5 percent) had not had a course in general economics in their high school curriculum. Moreover, the analysis indicated that the number of general economics courses taken in high school did not influence the student's understanding of economics. Table 6 shows that

students who had no economics made a mean raw score of 19.9 on the Test of Economic Understanding compared to 18.8 for those who reported having had one or two economics courses in their high school curriculum. These data indicate that among freshmen enrolling at Morehead State University in the fall of 1976, only 19.5 percent had been exposed to a course in general economics in high school. More significantly, the instruction received by those who had taken general economics in high school did not have a measurable impact on the student's level of economic understanding.

Table 7 A through D shows the relationship of the number of general mathematics courses taken in high school to the raw score on the Test of Economic Understanding by sex and home residence of participants. In all categories, whether male or female, whether in-state or out-of-state, students who had taken a large number of general mathematics courses made higher scores on the Test of Economic Understanding.

Further analysis indicated that the males generally took a larger number of general mathematics courses in high school than did the females and that this contributed significantly to the difference in raw mean scores of male and female students.

Table 8 shows that out-of-state males who had an average of 2.08 general mathematics courses in high school made a mean raw score of 24.9, while in-state females who pursued an average of only 1.49 general mathematics courses in high school made a mean raw score of 18.6. Moreover, the females from out-of-state had taken an average of 1.79 mathematics courses in high school and had a higher mean raw score (20.1) than did the in-state males with fewer mathematics courses. These data strongly suggest that the difference in economic understanding among

Table 6

Relationship of Specified Number and Type of High School Courses to Raw Score and Range of Score on the Test of Economic Understanding, Morehead State University Freshmen, Fall, 1976

A. General Mathematics Courses

Number of Courses Taken	Number of Students	Range Low	Range High	Mean Raw Score
4	4	21	31	26.0
3	18	13	34	25.3
2	39	12	40	20.0
1	42	11	31	17.8
0	10	12	20	14.7

B. Business Education Courses

Number of Courses Taken*	Number of Students	Range Low	Range High	Mean Raw Score
3	6	11	31	18.3
2	17	12	30	19.9
1	22	12	23	16.6
0	68	11	40	20.8

C. Economics Courses

Number of Courses Taken**	Number of Students	Range Low	Range High	Mean Raw Score
1-2	22	12	34	18.8
0	91	11	40	19.9

*No student reported taking more than three of the business education courses listed.

**Only one of the 113 students had taken two general economics courses in high school. This student's score was below the mean of the 21 who had taken one general economics course. For this reason, those who had taken one or two general economics courses in high school were combined.

Table 7

Relationship of the Number of Mathematics Courses Taken in High School to the Raw Score and Range of Score on the Test of Economic Understanding, by Sex and Home Residence of Students, Morehead State University Freshmen, Fall, 1976

A. In-State Students (Males)

Number of Math Courses Taken	Number of Students	Range Low	Range High	Mean Raw Score
3-4*	6	20	28	24.0
2	8	13	20	21.5
1	9	13	31	18.9
0	2	14	16	15.0

B. In-State Students (Females)

Number of Math Courses Taken	Number of Students	Range Low	Range High	Mean Raw Score
3-4*	6	17	30	22.5
2	16	11	25	17.9
1	19	13	28	17.9
0	6	12	16	14.2

C. Out-of-State Students (Males)

Number of Math Courses Taken	Number of Students	Range Low	Range High	Mean Raw Score
3-4*	3	22	29	26.0
2	6	18	40	28.7
1	4	12	26	18.8
0	0	--	--	----

Table 7 (continued)

D. Out-of-State Students (Females)

Number of Math Courses Taken	Number of Students	Range Low	Range High	Mean Raw Score
3-4*	7	13	34	24.3
2	9	14	28	19.7
1	10	11	31	17.3
0	2	12	20	16.0

*Only four students in the entire sample of 113 had taken four mathematics courses in high school. The results suggested that the fourth math course was an important determination of economic understanding, but because the number of students who had taken the fourth mathematics course was small, these were combined with those who had taken three high school mathematics courses for purposes of this analysis.

male and female students was not due to sex per se but was due to other factors, among which the average number of general mathematics courses taken appeared to be a significant contributory factor.

Table 8

Relationship of the Mean Number of General Mathematics Courses Taken in High School to the Mean Raw Score on the Test of Economic Understanding, by Sex and Residence of Students, Morehead State University Freshmen, Fall, 1976

Category	Mean Number of Math Courses	Mean Raw Score
Males, Out-of-State	2.08	24.9
All Males	1.84	21.4
Females, Out-of-State	1.79	20.1
Males, In-State	1.72	19.6
All Students	1.68	19.9
All Females	1.60	19.1
Females, In-State	1.49	18.6

Relationship of Participants' ACT Scores to Economic Understanding

In an effort to further understand the relationship of the type of educational background responsible for the variation in participants' scores on the Test of Economic Understanding, the ACT scores for 93 of the 113 participating students were obtained from the Morehead State University Testing Center. ACT scores for the remaining participants were not available. The students' ACT scores in English usage, mathematics usage, social sciences and natural sciences were then compared to results of their scores on the Test of Economic Understanding. In all ACT categories and in the ACT composite score, higher ACT scores were positively correlated with higher scores on the Test of Economic Understanding.

Participants who had a composite ACT score of less than 10 had a mean score of 15.08 on the Test of Economic Understanding compared to 25.72 for participants with composite ACT scores of more than 20. Results for each of the ACT categories were similar to those obtained for the composite ACT scores, indicating little, if any, evidence that a higher ACT score in one specialty was more important than those in another area (see Table 9 A through E).

Since the number of general business education courses and general economics courses taken in high school did not influence the students' scores on the Test of Economic Understanding, it could be surmised that these courses probably have little relationship to the students' ACT scores. However, since less than 20 percent of the participating students had never taken an economics course, the evidence in regard to this subject should be considered weak.

Table 9

Relationship of the Students' ACT Scores to the Range of Score and Mean Raw Score on the Test of Economic Understanding

A. English Usage ACT

Range of ACT Score	Number of Students	Raw Score, Economic Understanding: Range of Score	Raw Score, Economic Understanding: Mean Score
≤10	12	12-22	15.75
>10 ≤20	52	12-40	18.44
>20	29	16-34	24.62

B. Mathematics Usage ACT

Range of ACT Score	Number of Students	Raw Score, Economic Understanding: Range of Score	Raw Score, Economic Understanding: Mean Score
≤10	31	12-28	16.81
>10 ≤20	39	11-40	18.82
>20	23	19-34	25.87

C. Social Studies ACT

Range of ACT Score	Number of Students	Raw Score, Economic Understanding: Range of Score	Raw Score, Economic Understanding: Mean Score
≤10	33	12-23	16.85
>10 ≤20	30	12-30	18.20
>20	30	11-40	25.33

Table 9 (continued)

D. Natural Science ACT

Range of ACT Score	Number of Students	Raw Score, Economic Understanding Range of Score	Mean Score
≤ 10	6	12-17	14.50
> 10 ≤ 20	55	11-32	17.89
> 20	32	15-40	24.72

E. Composite ACT

Range of ACT Score	Number of Students	Raw Score, Economic Understanding Range of Score	Mean Score
≤ 10	12	11-17	15.08
> 10 ≤ 20	52	12-28	17.81
> 20	29	11-40	25.72

Relationship of the Parents' Social Position to Participants' Economic Understanding

It was assumed that the participating student's home environment, particularly the parents' social position as indicated by their education and profession, would have a positive impact on the student's educational development which would be revealed in the scores on the Test of Economic Understanding. From personal data supplied by participating students, information was obtained concerning both the educational and professional background of 94 fathers and 62 mothers. Paul's

Two Factor Index of Social Position[16] was then used to establish the socio-economic position of the fathers and mothers of participating students.

This index categorized the parents into five distinct social positions, Number I being the highest social classification and Number V being the lowest social classification. The score on the Test of Economic Understanding averaged only 16.25 for students whose fathers were in the fifth (lowest) social classification compared to a mean of 26.80 for those whose fathers were in the second (next to highest) social position category (see Table 10 A).

Results were approximately the same whether the student's performance was compared to the Social Position Index of the mother or the father. This could probably be explained by the fact that the social position of the two parents is often fairly homogenous. The mean score of economic understanding was lower for the first (highest) social class than for the second or third categories. No explanation for this unusual result was discovered.

Relationship of Participants' Exposure to Current Economic Information to Raw Scores on the Test of Economic Understanding

There was no indication that exposure to current economic information through such media as radio, television or weekly news magazines influenced the participants' scores on the Test of Economic Understanding. The 67 participants, or 59.3 percent, who reported that they listened to or watched newscasts regularly made a mean raw score of 19.4 on

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[16]Paul, op. cit., pp. 176-187. See Appendix C, page 70, for an explanation of the Index.

Table 10

Relationship of the Parents' Social Position to the Participants' Scores on the Test of Economic Understanding

A. Father's Social Position

Social Position Categories	Number of Students	Range of Raw Score	Mean Raw Score
I	9	16-31	20.56
II	10	19-34	26.80
III	35	12-40	21.09
IV	32	11-34	18.06
V	8	14-22	16.25

B. Mother's Social Position

Social Position Categories	Number of Students	Range of Raw Score	Mean Raw Score
I	6	16-23	20.50
II	10	16-28	23.30
III	20	12-40	21.75
IV	20	11-34	17.20
V	6	12-16	14.00

the Test of Economic Understanding, while those who did not watch or listen to newscasts regularly had a mean raw score of 20.2 as indicated in Table 11.

Participants who regularly read one or more weekly news magazine had a mean raw score of 18.8 compared to 20.7 for those who read such magazines only occasionally and 19.3 for those who never read any of the weekly news magazines listed. See Table 12.

Table 11

Relationship of the Mean Raw Score and Range of Raw Scores Made on the Test of Economic Understanding to the Frequency With Which Participants Watched or Listened to Daily Newscasts

Watch or Listen to Daily Newscast	Number of Participants	Range of Raw Scores	Mean Raw Score
Yes	67	11-32	19.4
No	46	14-40	20.2

Table 12

Relationship of the Mean Raw Score and Range of Raw Scores Made by Participants on the Test of Economic Understanding to the Number and Frequency of Weekly News Magazines Read*

Weekly News Magazines	Number of Participants	Range of Raw Scores	Mean Raw Score
Usually read one or more	24	12-34	18.8
Occasionally read one or more	49	11-40	20.7
Never read any	40	12-34	19.3

*The weekly news magazines listed to determine students' reading habits were: Business Week, Newsweek, Time, and U.S. News & World Report. However, Business Week was not included in the analysis of student reading habits as none of the participants read this magazine on a regular basis, and only nine reported reading it occasionally.

As previously mentioned, the Test of Economic Understanding was designed to test the participants' knowledge of economic principles or theory rather than their knowledge of current economic data or events. Thus, the results cited above tend to support the validity of the Test as a measure of economic understanding.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary

The problem in this study was to: (1) measure the level of economic understanding of Morehead State University freshmen relative to national norms; and (2) discover the causal factors which would explain the variations in economic understanding of participants.

A total of 113 students, all of whom were first semester freshmen, participated in the study. These students were enrolled in six randomly selected English 101 classes during the Fall semester, 1976.

For purposes of analysis, the participants were classified by: (1) sex; (2) home residence, i.e., whether in-state (Kentucky) or out-of-state residents; (3) size of high school graduating class; (4) number of general mathematics, business education, and general economics courses taken in high school; (5) ACT scores; (6) social position of parents; and (7) exposure to current economic events by newscasts and weekly news magazines.

The major findings of this study are as follows:

1. Fewer than 20 percent of the participants had taken an economics course in high school. More significantly, the instruction received by those who had taken general economics courses in high school did not have a measurable impact on the student's level of economic understanding. Participants who had no economics in high school made a

mean raw score of 19.9 on the Test of Economic Understanding compared to 18.8 for those who reported having taken one or two economics classes in their high school curriculum. Since the participants' training in economics seemed to be negligible, the scores for all participants were compared to the national norms for twelfth grade students who had not taken any economics in high school.

2. Male participants achieved a higher score on the Test of Economic Understanding than did females. The mean raw score earned by the 38 male participants was 21.4 compared to a mean of 19.1 for the 75 females.

3. Out-of-state students earned significantly higher scores than did the in-state residents. The mean raw score earned by the 72 in-state students was 18.9 while the 41 participants from out-of-state averaged 21.6.

4. On the basis of national norms established for twelfth grade students who had never taken a course in economics, the score made by Morehead State University freshmen ranged from the first to the 99th percentile. Only out-of-state male students earned scores equal to or better than the national norms. In this group, 53.9 percent scored at or above the 50th percentile. In all other categories, a disproportionately large number of the participants placed in the lowest quartile ($>0 \leq 25$ percentiles). Among in-state females, approximately 75 percent placed in the lowest quartile, three times the proportion that national norms indicate should be in this category. For all participants, 59.3 percent placed in the lowest quartile, approximately 2.4 times the proportion expected on the basis of the national norms.

5. Participants who graduated from high schools of intermediate size scored higher on the Test of Economic Understanding than did those who had graduated from schools with very small or very large enrollments. The mean raw score for participants from high school graduating classes of less than 100 was 18.0, while participants from high school graduating classes of 200 to 300 earned an average score of 21.3.

6. The number of general mathematics courses taken in high school appeared to have a significant impact on the economic understanding demonstrated by participants. Those who had not taken a general mathematics course in high school made a mean raw score of only 14.7 on the Test, while those who had taken four mathematics courses made a mean raw score of 26.0.

7. The differences in the number of mathematics courses taken in high school appeared to be the primary variable explaining the differences in economic comprehension displayed by male and female participants. Among out-of-state males who had taken an average of 2.08 mathematics courses each, the mean raw score on the Test of Economic Understanding was 24.9, while in-state males who had taken an average of 1.72 mathematics courses each made a mean score of 19.6. Out-of-state females who had taken an average of 1.79 mathematics courses each made a mean raw score of 20.1, while in-state females who had taken an average of only 1.49 mathematics courses made a mean raw score of 18.6.

8. The number of business education courses taken in high school did not influence the participants' economic understanding. Sixty-eight students who had never had a business education course in high school made a mean raw score of 20.8 on the Test of Economic

Understanding, while three groups who had taken one, two, or three business education courses had mean raw scores of 16.6, 19.9, and 18.3, respectively.

9. In all ACT categories, higher ACT scores were positively correlated with higher mean scores on the Test of Economic Understanding. Participants whose composite ACT score was greater than 20 made a mean raw score of 25.7, while those whose composite ACT score was equal to or less than 10 made a mean raw score of 15.1. Similar results were obtained when the separate ACT scores for English, mathematics, social sciences, and natural sciences were related to the participants' scores.

10. The participants' mean scores on the Test of Economic Understanding increased as the social position of their parents increased from the fifth (lowest) through the second (next to highest) social position categories. The mean raw score for participants whose fathers were in the V (lowest) social position was 16.2 compared to 26.8 for participants whose parents were in socio-economic position II. The results were approximately the same whether the participants' performance was related to either the father's or mother's Social Position Index. The mean raw score in the Test of Economic Understanding was lower for social class I (highest) than for social classes II or III. No explanation for this unusual result was discovered.

11. There was no evidence from this study that exposure to current economic information through such media as radio, television, or weekly news magazines influenced the participants' scores on the Test of Economic Understanding. Since the Test was designed to measure the participant's knowledge of economic principles or theory rather than

knowledge of current economic data or events, these results tend to support the validity of the Test as a measure of economic understanding.

Conclusions

Conclusions derived from information obtained by the study are as follows:

1. The level of economic understanding of entering freshmen at Morehead State University varies widely but is well below the national norms for twelfth grade students who have never had a course in economics.

2. Entering freshmen from out-of-state have a higher level of economic understanding than do those from Kentucky high schools.

3. Only a small proportion of the freshmen entering Morehead State University have been exposed to an economics course in high school.

4. The economics courses as currently taught in the secondary schools from which the participants graduated were ineffective in instilling economic understanding in the students according to test results.

Recommendations

The following recommendations are made in an effort to correct the deficiencies that exist in economic education in Kentucky:

1. That a Director of Economic Education and adequate supportive staff be employed by the State Department of Education to establish, coordinate, and direct an economic education program in Kentucky's secondary schools;

2. That a minimum one-semester course in principles of economics be established in every accredited high school in the state at the eleventh or twelfth grade level and that all students be required to take this course;

3. That teachers certified to teach economics in Kentucky's high schools should have no less than six semester hours of principles of economics at the college level;

4. That additional research be conducted periodically to determine the effectiveness of an economic education program established by the state.

These recommendations, while stated in terms of the needs of the state of Kentucky, are equally applicable to other states seeking improvements in economic education.

BIBLIOGRAPHY

BIBLIOGRAPHY

A. BOOKS

Buros, Oscar Krisen, ed. The Seventh Mental Measurements Yearbook. Highland Park, New Jersey: The Gryphon Press, 1972.

Committee for Economic Development. Economic Literacy for Americans. A Statement of National Policy by the Research and Policy Committee for Economic Development, 1962.

Frankel, M. L. Economic Education. New York: The Center for Applied Research in Education, Inc., 1965.

Harris, Chester W., ed. Encyclopedia of Educational Research. New York: The Macmillan Company, 1960.

Hollingshead, August B., and Frederick C. Redlick. Social Class and Mental Illness. New York: John Wiley and Sons, 1958.

McKee, Captain William, and H. G. Moulton. A Survey of Economic Education. Washington, D. C.: The Brookings Institution, 1951.

National Task Force on Economic Education, Committee for Economic Development (CED). Economic Education in Schools. New York: The Committee, 1961.

Olson, Milton C., and Eugene L. Swearingen. Business and Economic Education. Washington, D. C.: National Education Association of the United States, 1961.

Science Research Associates. Interpretive Manual and Discussion Guide: Test of Economic Understanding. Chicago: The Associates, 1963.

B. PERIODICALS

Back, G. L., and Phillip Saunders. "Economic Education: Aspirations and Achievements," The American Economic Review, LV (June, 1965).

Bower, Marvin. "Economic Understanding for Effective Citizenship," National Association of Secondary School Principals Bulletin, LIII (May, 1969).

Cummings, Howard. "Economic Education in the Secondary Schools," Journal of Educational Sociology, XXIII (May, 1950).

"Economic Education Report," The Balance Sheet, XXXIII (March, 1952).

Flieger, Howard. "The Economics Gap," U.S. News and World Report, LXXXII (January 31, 1977).

Jones, Galen. "The Current Status of Economics Teaching in the High Schools of the United States," National Association of Secondary School Principals Bulletin, CCCIV (November, 1965).

Miller, Elwyn. "The High School Teachers of Economics," Iowa Business Digest, IX (March, 1957).

Olson, Paul R. "This is Economics in the Schools," American Economic Review, LI (May, 1961).

Senesh, Lawrence. "We Cannot Afford Economic Illiteracy," School Digest, LXXVIII (October, 1958).

Wallace, E. S. "The Preparation of High School Teachers of Economics," The Journal of Economic Education, II (Fall, 1970).

C. UNPUBLISHED MATERIALS

Alexander, Linda Ann. "An Analysis of Economic Understanding of High School Seniors in Selected Schools in Alabama," unpublished Doctoral dissertation, University of Alabama, 1969.

Bennion, Donald Howard. "Relationships Between Factors of Teacher Preparation and Practice and Student Comprehension of Economics in Ohio Public High Schools," unpublished Doctoral dissertation, Ohio University, 1972.

Daughtry, Anne Scott. "An Analysis of the Economic Understanding of the June 1966 Graduates of Norfolk, Virginia Public Schools," unpublished Doctoral dissertation, University of South Dakota, 1967.

Dietz, James Emery. "Economic Understanding of Senior Students in Selected California High Schools," unpublished Doctoral dissertation, University of California, Los Angeles, 1963.

Gentry, Athal Dennis. "Economic Understanding of Non-College-Bound Seniors in Public High Schools in Indiana," unpublished Doctoral dissertation, University of Denver, 1969.

Healey, Ruth Wiedenhoeft. "An Analysis of Economic Understanding of High School Senior Students and Non-College Bound Graduates of Northern Illinois High School, 1960-1965," unpublished Doctoral dissertation, Northern Illinois University, 1965.

Holland, Thomas C. "An Analysis of Economic Understanding and Values of High School Seniors in a Large Metropolitan School District," unpublished Doctoral dissertation, North Texas State University, 1972.

Hunt, Eugene Harold. "An Experimental Study to Determine the Effectiveness of Teaching Economics at the Secondary School Level," unpublished Doctoral dissertation, University of Maryland, 1968.

Jones, Roland Odell. "A Study of the Relationship Between Economic Understanding, Business Education Curricula and Certain Personal Factors of Business Education Seniors in Selected Delaware High Schools," unpublished Doctoral dissertation, The Pennsylvania State University, 1971.

Paul, Joel Harris. "An Analysis of Economic Understanding in Selected Georgia High Schools," unpublished Doctoral dissertation, University of Georgia, 1964.

Rutledge, Walter E. "An Analysis of Economic Understanding of Selected High School Seniors in the Atlanta Public Schools," unpublished Doctoral dissertation, Georgia State University, 1971.

Smith, Alfred J. "The Relationship Between Economic Understanding of Graduating Seniors and Certain Personal and Curricular Factors," unpublished Doctoral dissertation, Indiana University, 1967.

Sorensen, Norman Leroy. "Economic Understanding of Senior Students in the Omaha, Nebraska Public High Schools," unpublished Doctoral dissertation, University of Nebraska Teachers College, 1967.

Wall, Carlton Dewey. "Contributing Factors to the Economic Understanding of High School Seniors," unpublished Doctoral dissertation, Ohio State University, 1971.

D. OTHER

Registrar's Office. "Data Concerning the Sex Distribution and Residence of All Entering Freshmen at Morehead State University," Morehead, Kentucky, 1976.

APPENDIXES

APPENDIX A

TEST OF

ECONOMIC UNDERSTANDING

PRELIMINARY EDITION No. 2

FORM B

PREPARED BY THE COMMITTEE FOR MEASUREMENT OF ECONOMIC UNDERSTANDING OF THE JOINT COUNCIL ON ECONOMIC EDUCATION

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TEST OF ECONOMIC UNDERSTANDING

Directions

This test is designed to measure your understanding of economics. Not all students have taken a formal course in economics, but most have learned something about the subject in their regular courses, through reading, listening to the radio, or watching television. These questions will measure how well you understand the principles of economics and the way our economy operates. It is probable that you will not know the answers to some questions. However, you should answer *every* question by marking what you think is the best choice, using the information you do have in selecting your answer. Work at a comfortable speed, but do not spend too much time on any one item.

The test consists of fifty questions or incomplete statements, for each of which you are to choose the *one best answer*. Even though in some instances more than one answer may appear to be correct, your task is to choose the *best* answer. After you have read the question and chosen your answer, use your pencil to blacken the space on the answer sheet that corresponds to the answer you have chosen. Now read the sample questions below and mark your answers on the answer sheet.

Sample Question 1

Prices are usually lower for a product when

A. only one company produces it
B. several competing companies produce it
C. labor unions are strong where it is produced
D. the federal government controls its production

Sample Question 2

The federal government exercises the closest control over

A. banking and money
B. high school education
C. food distribution
D. oil companies

Sample Question 3

For which of the following groups is the average income *lowest*?

A. Business executives
B. Physicians
C. Engineers
D. Farmers

TEST OF

ECONOMIC UNDERSTANDING

Form B

1. When a nation's human and material resources are being fully and efficiently used, more of any one product

   A. cannot be produced
   B. cannot be produced unless private enterprise rather than government does so
   C. can be produced only if there is less production of some other products
   D. can be produced only if there is a general decrease in prices

2. All economic systems (capitalist, communist, feudal, or any other) face similar economic problems. Which one of the following questions would some but not all economies face?

   A. What will be produced and how?
   B. How can markets be kept competitive?
   C. How many resources will be devoted to maintaining and increasing future capacity?
   D. For whom will the goods be produced?

3. In a basically private enterprise economy, which group exercises the principal influence on the choice of goods produced over a long period of time?

   A. Consumers
   B. Government
   C. Big business
   D. Labor unions

4. Of the following, which is not a function of profits in a basically private enterprise economy?

   A. Providing an incentive for efficient production by businesses
   B. Rewarding producers who give consumers what they demand
   C. Inducing businessmen to assume necessary business risks
   D. Indicating to the government where wages are too low

5. How does a family's saving most clearly influence capital formation?

   A. Saving means spending less; therefore family saving hurts the seller and thus discourages capital formation.
   B. Savings are always invested by the saver; therefore an increase in family saving increases capital formation.
   C. A family's savings are normally channeled through financial institutions to firms that usually use the savings for capital formation.
   D. A family's savings lead to capital formation when they are used to pay off debts.

6. In a basically private enterprise economy, the main objective of businessmen is to

   A. provide good jobs for workers at reasonable wages
   B. secure government regulation that is favorable to business
   C. try to make profits
   D. provide highest-quality products

7. If a consumer is to exercise his freedom of choice wisely in a private enterprise economy,

   A. he should know whether a product was produced by a monopolist
   B. he must know where products are produced so that he may purchase those made locally if possible
   C. he should know what alternative goods and services are available as well as their qualities and prices
   D. he must have sufficient income to permit him to purchase whatever he chooses

8. Assume that the demand increases for a commodity produced by many competitive firms. The resulting rise in price of the commodity will usually lead to

   A. less being produced
   B. more being produced
   C. no change in production
   D. elimination of inefficient businesses from the market

9. If the supply of a commodity increases at the same time the demand for it falls, in the absence of counteracting forces its price will

   A. rise
   B. fall
   C. stay the same
   D. be indeterminate

10. In a private enterprise economy, the public interest is served even when individuals pursue their own private economic goals, because of

    A. the social responsibility of private businessmen
    B. careful planning and coordination of economic activity
    C. the operation of competitive markets
    D. individuals who understand what is in the public interest

11. Under a private enterprise economy the function of competition is to

    A. eliminate wasteful advertising
    B. eliminate interest and profits
    C. prevent large firms from driving small ones out of business
    D. force prices to the lowest level consistent with a reasonable profit

12. Of the following factors, which one is not likely to increase the demand for bricks?

A. An increase in the price of home construction
B. An increase in the incomes of potential home builders
C. A decrease in the price of mortar (i.e., a complementary commodity)
D. An increase in the price of lumber (i.e., a substitute for bricks)

13. Which of the following is the most basic economic objection to monopolies?

A. Prices set by monopolies are usually too low.
B. Monopolies exert disproportionate political power.
C. When a monopoly fails, the effect upon our economy is far more serious than when a competitive enterprise fails.
D. Economic resources will tend to be less efficiently allocated.

14. Which one of the following is **untrue** of the economy of the United States over the past fifty years?

A. Monopoly has increased to the point where it controls more than half of our production.
B. The average size of firms has grown substantially.
C. Small firms and large firms have both increased in number.
D. Improved transportation and communication have resulted in firms competing over larger markets.

15. When the federal government attempts to eliminate monopolies, it does so mainly in order to

A. ensure competition
B. prevent small firms from decreasing
C. expand public utilities
D. prevent the growth of big business

16. In large business corporations the common stockholders generally do **not**

A. own the business
B. receive a share of the profits
C. vote for the board of directors
D. manage the day-to-day business

17. The opportunity cost (or alternative cost) of a new public high school is the

A. money cost of the new building
B. other desirable economic goods that must be forgone to secure the school
C. necessary increase in the annual tax rate
D. cost of constructing it now as opposed to the cost of a new school at a later date

18. Government expenditures (federal, state, and local combined) now represent about what portion of the gross national product?

A. A tenth
B. A quarter
C. Half
D. Three-fourths

19. The bulk of federal government expenditure during the past few years has been for

A. foreign aid
B. the space program
C. special benefits for the poor and unemployed
D. national defense

20. In a basically private enterprise economy, which tax is likely to alter most the pattern of consumer choice among alternative products?

A. A general sales tax
B. A personal income tax
C. An excise tax on particular products
D. A tax on business profits

21. Specialization and exchange within a nation or between nations tend to have which of the following effects?

A. A larger total quantity of wanted goods and services can be produced.
B. The independence of both nations and individuals is increased.
C. The danger of economic instability is reduced.
D. All costs of production will rise, but not proportionately.

22. When a nation is running a deficit in its international balance of payments, it is always currently

A. exporting more goods than it is importing
B. importing more goods than it is exporting
C. paying more to other nations than others are paying to it
D. helping less fortunate nations to develop economically

23. Reduced U.S. tariffs would probably

A. lessen job opportunities in our export industries
B. injure most farmers
C. force some workers out of jobs in presently protected industries
D. lower the average U.S. standard of living

24. When obtained at various intervals, which one of the following four types of statistics will give the best measure of the economic growth of a nation?

    A. Balance of payments
    B. Index of stock prices
    C. Total employment
    D. Real income per capita

25. Annual gross national product is a measure of

    A. the quantity of goods and services produced by private businesses
    B. the value of a nation's total output of goods and services
    C. the price level of goods and services sold
    D. that part of production which is used by the government

26. The maximum gross national product a nation can produce in any one year is set by

    A. its natural resources
    B. families' demand for products
    C. the amount of money people have to spend
    D. its productive resources

27. Often an economy operates at less than full employment. This is most likely to occur

    A. when total spending is inadequate
    B. when there is inflation
    C. when there is a scarcity of unskilled labor
    D. whenever competition is intense

28. The total output of the economy is bought by which of the following three large groups of spenders?

    A. Farmers, laborers, and housewives
    B. Consumers, business firms, and governments
    C. Investors, speculators, and bankers
    D. Corporations, households, and capitalists

29. In recessions in the United States since World War II, which of the following has declined most sharply?

    A. Family spending on consumer goods
    B. Business firms' spending on plants, equipment, and inventories
    C. Family spending on services
    D. Government spending on goods and services

30. Increasing the government budgetary surplus or decreasing the deficit is particularly desirable in a period of

    A. inflation
    B. mass unemployment
    C. depression
    D. economic instability

31. The primary reason for the growth in federal debt over the last century has been government deficits caused by

    A. wasteful domestic expenditures and social welfare payments
    B. depressions and recessions
    C. declining tax receipts
    D. wars

32. An increase in the amount of money in the nation usually leads to higher prices, except

    A. when there is widespread unemployment of men and machines
    B. when labor unions are strong
    C. when the nation's gold reserves are adequate
    D. in periods of general prosperity

33. When commercial banks increase their loans to businesses and consumers, the result is

    A. a decrease in the spending power of consumers and businesses
    B. an increase in the nation's money supply
    C. an increase in government control over the economy
    D. an increase in the banks' excess reserves

34. In an inflationary period an appropriate policy for the Federal Reserve would be to

    A. sell government securities on the open market
    B. lower legal reserve requirements
    C. decrease the discount rate
    D. encourage member banks to increase their loans

35. Which of the following groups is typically hurt the most by inflation?

    A. Farmers
    B. Debtors
    C. Government bondholders
    D. Businessmen

36. Assume our economy is operating at full capacity. Of the following policies, which one would not be appropriate to increase our rate of economic growth?

    A. Encouraging an increase of private savings and investment in capital goods and equipment
    B. Improving the skill and knowledge of people through increased education
    C. Developing technology and managerial ability
    D. Encouraging an increase in personal consumption

37. If total demand declines relative to the productive capacity of the economy,

    A. the growth rate is likely to slow down, at least temporarily
    B. inflation is likely to occur
    C. a large government budgetary surplus is likely to occur
    D. employment is likely to increase

38. The average per capita income of the two-thirds of the world's population in the so-called underdeveloped nations is

A. less than one-tenth of ours
B. about one-quarter of ours
C. about one-half of ours
D. about three-fourths of ours

39. The most general cause of low individual incomes in the United States is

A. lack of valuable productive services to sell
B. unwillingness to work
C. automation
D. discrimination against nonunion employees

40. In the United States during the present century

A. inequality in personal incomes has been largely eliminated
B. the rich have become richer and the poor poorer
C. average real family income after taxes has remained generally unchanged
D. income inequality has been somewhat reduced

41. High wages in the United States are based on the high productivity of U.S. labor. All of the following contribute to this high productivity except

A. the skill and work habits of U.S. labor
B. our accumulation of a large stock of capital goods
C. our technological and managerial advances
D. tariff protection from competition of low-paid foreign workers

42. Both featherbedding by unions and monopolistic practices by employers are likely to result in

A. an increase in average labor productivity for the nation as a whole
B. a less efficient use of resources
C. less labor being used in the industry affected
D. a raising of average real wages in the nation as a whole

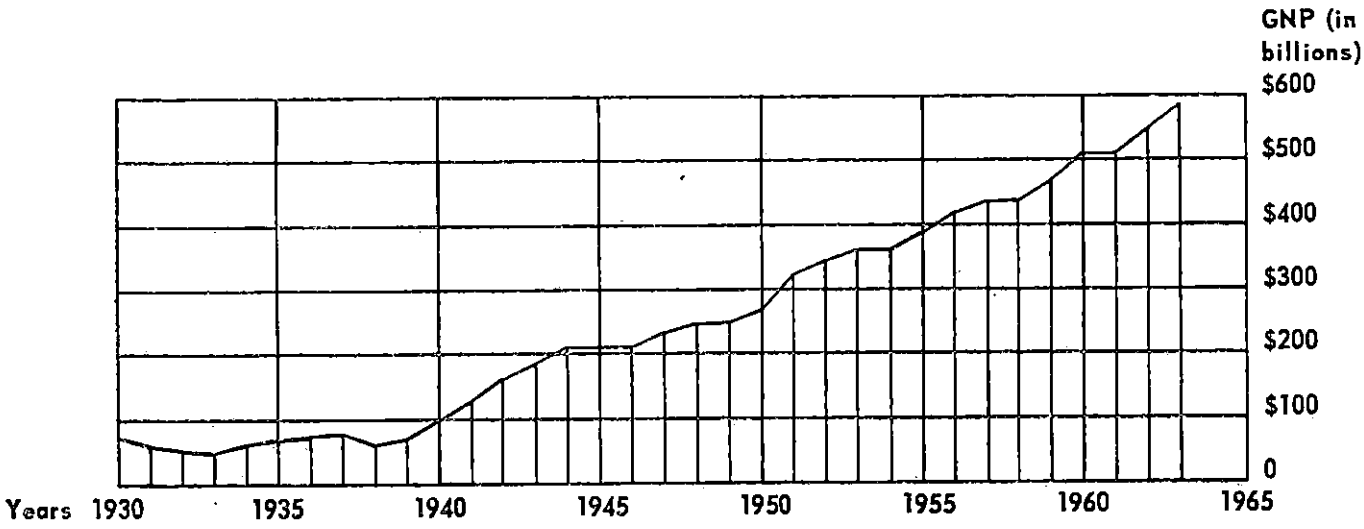
43. Which of the following has been the most obvious result of our governmental policy toward agriculture?

A. The average farm income has been raised almost to the level of the average nonfarm income.
B. Large surpluses of farm commodities have been accumulated by the government.
C. Capital and labor have turned to agriculture to take advantage of guaranteed high prices and profits.
D. The family farm has been almost completely replaced by the large corporate farm.

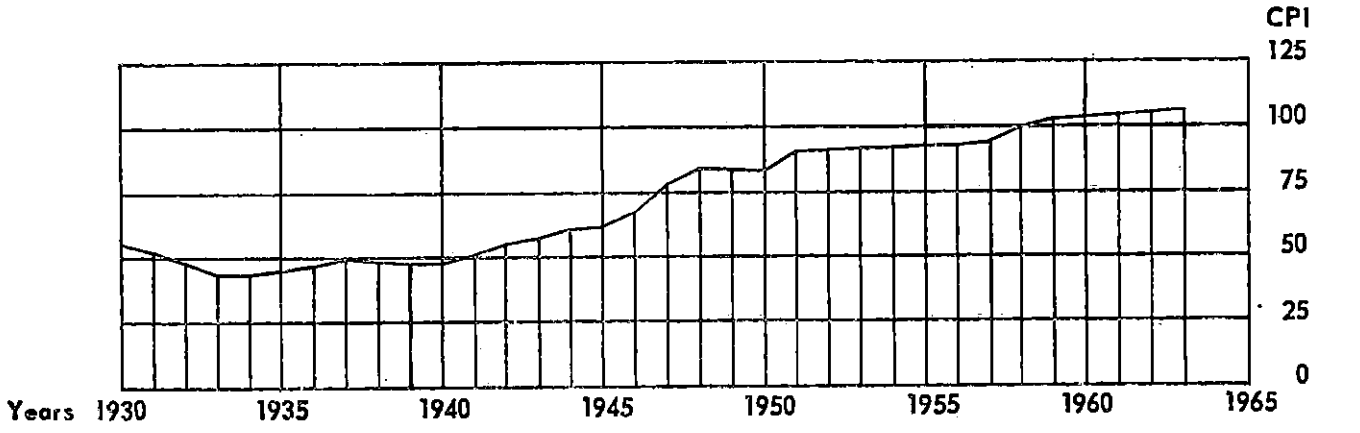
44. Measures to increase economic security against unemployment will tend to increase economic efficiency if

A. one cannot transfer to better-paying jobs offered by other employers, to be eligible for benefits
B. the security the measure provides tends to reduce one's incentive to produce
C. the costs of the measures are borne equally by firms regardless of their record for causing economic insecurity
D. the average output per worker is increased as a result of improved economic security

GROSS NATIONAL PRODUCT, PRICES, AND UNEMPLOYMENT, 1930 - PRESENT

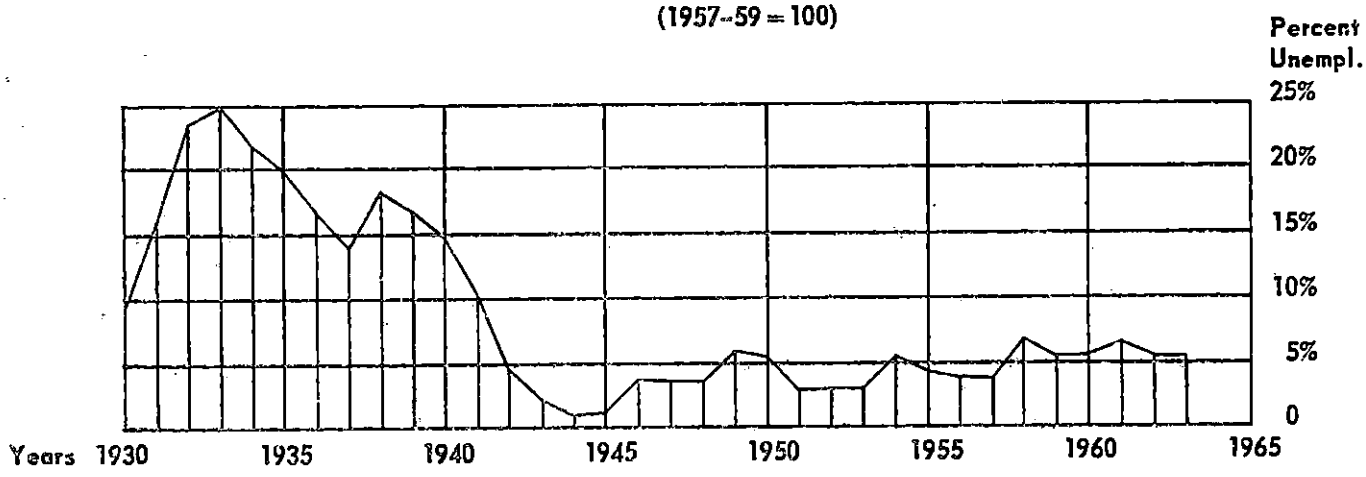


GROSS NATIONAL PRODUCT



CONSUMER PRICE INDEX

(1957–59 = 100)



UNEMPLOYMENT

(Percent of civilian labor force)

Source: *Economic Report of the President, 1964*

45. In the United States, in contrast to the U.S.S.R. (Russia),

A. the problem of scarcity has been eliminated
B. consumer spending largely determines what commodities are produced
C. incomes are unequally distributed
D. government plays an insignificant role in economic life

46. Which of the following characterizes the economic system in the U.S.S.R.?

A. The average standard of living is declining.
B. The level of investment is based entirely on military needs.
C. Economic growth depends on the diversion of resources from consumption to investment.
D. Central planning has eliminated all need for prices on goods and services.

47. Compared with the U.S. economy, the democratic socialist economies of the United Kingdom, the Scandinavian countries, and India

A. are considerably more productive
B. have more government ownership and control
C. demonstrate clearly that only private enterprise is compatible with democracy
D. have been short-lived, for in two of the cases socialism has been abandoned

48. We desire a growing economy in which the price level is stable and employment reasonably high. The charts on page 10 show that we have most fully approximated this ideal between

A. 1937 and 1938
B. 1940 and 1941
C. 1946 and 1947
D. 1955 and 1956

49. Judging from your inspection of the three charts, which of the following seems to be the most serious economic problem of the immediate postwar period (1946–48)?

A. Decline in the output of the economy
B. Inflation
C. Unemployment
D. Declining output per worker

50. On the charts, note the behavior of the economy between 1950 and 1952. Which of the following statements most correctly analyzes the situation and states the most appropriate monetary and fiscal policies for these years?

A. The GNP is moving to an all-time high and prices are stable; no change in policy is called for.
B. Unemployment is rising; a budgetary deficit and/or an easy money policy is called for.
C. It is a period of inflation; a budgetary surplus and/or a tight money policy is called for.
D. Employment is falling and prices are rising; therefore a budgetary deficit and/or a tight money policy is called for.

APPENDIX B

PERSONAL DATA SHEET

Name_____ Age_____ Sex: Male_____ Female_____

1. Number of students in the high school you graduated from_____.

2. Size of your graduating class (number)_____.

3. Location of High School_____.

4. Population of your home town_____.

5. Father's occupation_____.

6. Mother's occupation (if she works outside the home)_____.

7. Did your father or mother graduate from high school?
   Father: yes ( ) no ( )
   Mother: yes ( ) no ( )

8. If no, circle the last grade attended.
   Father: 1 2 3 4 5 6 7 8 9 10 11 12
   Mother: 1 2 3 4 5 6 7 8 9 10 11 12

9. Did your father or mother attend college?
   Father: yes ( ) no ( )
   Mother: yes ( ) no ( )

10. If the answer is yes, did they graduate?
    Father: yes ( ) no ( )
    Mother: yes ( ) no ( )

11. Which of the following best represents your family's income:
    1. Below $5,000_____ 3. 10,001-20,000_____
    2. 5,001-10,000_____ 4. over 20,001 _____

12. Indicate with a check mark how often you read each of the following magazines.

	Usually	Occasionally	Almost never
Business Week	____	____	____
Newsweek	____	____	____
Time	____	____	____
U.S. News & World Report	____	____	____

13. Do you watch (or listen to) the news regularly?

    yes ( ) no ( )

14. The following is a list of the courses you may have taken during your high school career. Check those you have taken.

_____Algebra I	_____Fundamentals of Economics
_____Algebra II	_____General & Consumer Economics
_____Applied Economics	_____General Business
_____Business Arithmetic	_____Modern Economics
_____Business Economics	_____Our American Economy
_____Business Law & Economics	_____Problems in Economics
_____Consumer Economics	_____Social Economics
_____Economics	_____Trigonometry I
_____Economics of Distribution	_____Trigonometry II

APPENDIX C

APPENDIX C

The Two Factor Index of Social Position

The Two Factor Index of Social Position was developed by Paul[17] to measure differences in the socio-economic position individuals occupy. Variations in occupation and education were the two factors which Paul used to establish the social position of participants' parents.

Paul developed seven occupational categories or scales as follows:

1. Higher Executives, Proprietors of Larger Concerns, and Major Professionals

2. Business Managers, Proprietors of Medium-Sized Businesses, and Lesser Professionals

3. Administrative Personnel, Small Independent Businesses, and Minor Professionals

4. Clerical and Sales Workers, Technicians, and Owners of Little Businesses

5. Skilled Manual Employees

6. Machine Operators and Semi-Skilled Employees

7. Unskilled Employees.

The educational scale devised by Paul was also divided into seven categories as follows:

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[17]Paul, op. cit., pp. 176-187.

1. Graduate Professional Degree

2. Standard (four-year) College or University Graduate

3. Partial College Training (at least one full year of college)

4. High School Graduate

5. Partial High School (completion of twelfth or eleventh grades)

6. Junior High School (completion of seventh through ninth grades)

7. Less Than Seven Years of Schooling.

The occupational and educational factors were combined to yield an individual social position score. The weight for each factor was:

Factor	Factor Weight
Occupation	7
Education	4

To calculate the Index of Social Position Score for the parents, the scale score for "Occupation" was multiplied by the factor weight for occupation, and the scale score for "Education" was multiplied by the factor weight for education. For example, John Smith who completed high school and one year of business college is employed as the manager of a supermarket. His Index of Social Position Score is compiled as follows:

Factor	Scale Score	Factor Weight	Score x Weight
Occupation	3	7	21
Education	3	4	12
		Index of Social Position Score	33

The possible range of scores on the Index is from a low of 11 (highest education and professional category) to a high of 77 (lowest

education and skill category). Paul broke the Index of Social Position Scores into five social classes as follows:

Social Class	Range of Compiled Scores
I	11-17
II	18-27
III	28-43
IV	44-60
V	61-77